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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,719	01/25/2006	Ashok M. Adur	1200309N US	7466
35227 7590 04/06/2009 POLYONE CORPORATION 33587 WALKER ROAD AVON LAKE, OH 44012				
EXAMINER				
LENIHAN, JEFFREY S				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
04/06/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,719

Applicant(s)

ADUR, ASHOK M.

Examiner

Jeffrey Lenihan

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-8 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-8 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is responsive to the amendment filed on 03/18/2009.
2. The objections and rejections not addressed below are deemed withdrawn.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Continued Examination Under 37 CFR 1.114

4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/18/2009 has been entered.

Claim Rejections - 35 USC § 103

5. Claims 1, 3-8, and 10-14 are rejected under 35 U.S.C. 102(b) as being unpatentable over Asuka, JP 2000-095902 (of record) in view of Takahashi et al, JP 2001-081236, and Utz et al, US2003/0148056.
6. Amended claims 1 and 8 recite a molded article prepared from a thermoplastic elastomer composition in which a combination of an organic phosphate ester salt, sodium benzoate, a norbornane carboxylic acid salt, and a nucleating talc is used as a nucleating agent.

7. A discussion of the disclosure of Asuka can be found in paragraphs 17-27 of the Office Action mailed on 7/28/2008, incorporated herein by reference. Briefly, Asuka teaches an olefin-based thermoplastic composition containing a nucleating agent. Asuka discloses the use of sodium benzoate as a nucleating agent, but is silent regarding the use of a norbornane carboxylic acid salt, a nucleating talc, or an organic phosphate ester salt (claims 1, 3-8, 10-14).

8. Takahashi discloses a polyolefin resin containing a nucleating agent (§0002). Takahashi discloses that said nucleating agent may be a metal salt of an organophosphate ester (§0003, reference claims 3-5).

9. Utz discloses that the use of mineral compounds such as talc (§0114) and organic compounds such as norbornane carboxylic acid salts (§0117) as nucleating agents in polymers such as polyolefins was known in the art of polymer chemistry (§0072, 0080).

10. MPEP 2144.06 [R-6] states that it is *prima facie* obvious to combine compositions which are taught by the prior art to be useful for the same purpose, in order to form another composition to be used for the very same purpose. The idea of combining them flows logically from their having been individually taught in the prior art. As discussed above, sodium benzoate, talc, norbornane carboxylic acid salts, and organophosphate ester salts were all known in the prior art to be useful as nucleating agents in polyolefin resins. The examiner therefore takes the position that, barring a showing of unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Asuka by using a

combination of sodium benzoate, nucleating talc, norbornane carboxylic acid salt, and organophosphate ester salt as a nucleating agent to reduce cycle time and improve productivity (claims 1, 8).

Response to Arguments

11. The previous rejections of claims over the combinations of Ehata in view of Van Brederode and Asuka in view of Van Brederode are withdrawn in view of applicant's amendment to claims 1 and 8.

12. Applicant's arguments filed 03/18/2009 have been fully considered but they are not persuasive.

13. Applicant alleges that the data presented for Examples 10 and 11 in Tables 4 and 5 demonstrate that unexpected results are obtained with combination of nucleating agents recited in the instant claims 1 and 8.

14. As noted in paragraph 31 of the Office Action mailed on 1/29/2008, incorporated herein by reference, the data in Tables 4 and 5 cited by applicant only compares the cycle times for thermoplastic vulcanizates (TPVs) which do not contain nucleating agents and TPVs containing the claimed combination of nucleating agents. In view of the known function of nucleating agents to increase the rate at which a polymer hardens; a reduction in cycle time compared to an unmodified TPV is not an unexpected result. Applicant has not provided any data demonstrating that the degree by which the cycle time is reduced (about 22%) is unexpected in view of the reduction times typically obtained from the addition of the nucleating agents, either individually or in known combinations, taught in the prior art.

15. The examiner further notes that applicant compares the cycle time of Forprene™ 6M0 901 A75 containing the claimed nucleating agents (Example 10) to the cycle times of unmodified Santoprene™ 101-73 and Forprene™ 6M0 901 A70. Applicant states that the comparison examples were prepared using TPVs of similar hardness values as the TPV of Example 10; however, applicant does not provide any data demonstrating that the cycle time of unmodified Forprene™ 6M0 901 A75 is similar to the cycle times of the comparison polymers. Similarly, Example 11 compares the cycle time of Forprene™ 6M0 901 A85 containing the claimed nucleating agents to the cycle time of unmodified Santoprene™ 101-87. The examiner takes the position that it is therefore unclear whether the reported reductions in cycle time result solely from the addition of the claimed combination of nucleating agents or result in part from differences in the polymers being compared.

16. Furthermore, as discussed in the previous Office Action, the allegedly unexpected results are not commensurate in scope with the claims as they are currently written. Examples 10 and 11 both recite compositions wherein commercially available thermoplastic elastomers are combined with 0.1% sodium benzoate, 0.1% ADKstab NA-11 (organic phosphate ester salt), 0.2% nucleating talc, and 0.15% Hyperform HPN-68 (norbornane carboxylic acid salt) (Specification, page 21, lines 19-22). Applicant therefore has only provided data for compositions containing a total of 0.55% by weight nucleating agents, wherein the four compounds are used in combination at a specific ratio to each other. Amended claims 1 and 8, however, do not recite either a) ratios at which the four nucleating agents are used relative to each other or b) the range for the

total amount of nucleating agent added to the thermoplastic elastomer. Applicant also has not demonstrated that the allegedly unexpected results are obtained by combining the combination of nucleating agents with any thermoplastic elastomer as allowed by the current claims; data is only shown regarding two commercially available polymers. Applicant does not recite the monomers from which said commercially available polymers were made.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Lenihan whose telephone number is (571)270-5452. The examiner can normally be reached on Monday through Thursday from 7:30-5:00 PM, and on alternate Fridays from 7:30-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Irina S. Zemel/
Primary Examiner, Art Unit 1796

Jeffrey Lenihan
Examiner, Art Unit 1796

/JL/